

LI.—*Descriptions of new Species of Heterocera from Japan.*
—Part I. *Sphinges and Bombyces*. By ARTHUR G. BUTLER,
F.L.S., F.Z.S., &c.

THE cabinets of the British Museum having been recently enriched by the purchase of the private collection of moths made at Yokohama by Mr. Jonas, it has been thought desirable to devote the second part of the 'Illustrations of Typical Specimens of Lepidoptera Heterocera' to the description and representation of the moths of Japan; and since some little time must necessarily elapse before that part will be published, I propose to give brief preliminary diagnoses of new species in the present paper.

Sphingidæ.

1. *Triptogon piceipennis*, n. sp.

Allied to *T. sperchius*, but the primaries much greyer, the lines all distinct, those of the central area much less divergent on the costa, the secondaries of the male deep piceous or purplish brown, of the female paler, becoming gradually redder from the inner margin to the apex; body darker, with well-marked dark longitudinal thoracic crest. Expanse, ♂ 4 inches 6 lines, ♀ 4 inches 11 lines.

Yokohama (*Jonas*).

2. *Hyloicus caligineus*, n. sp.

Allied to *H. pinastri*, but differing in its dark smoky grey colouring, the white markings on the body and the lateral black spots on the abdomen wanting, the transverse bands on the primaries and the secondaries smoky brown, the two longitudinal black dashes on the primaries shorter and more linear. Expanse, ♂ 2 inches 8 lines, ♀ 3 inches 2 lines.

Yokohama (*Jonas*).

Zygænidæ.

3. *Zygæna niphona*, n. sp.

Allied to *Z. doryenii*, but the carmine spots of primaries greatly enlarged, all excepting the basi-subcostal one confluent; the spot in the cell pyriform, united to the discocellular spot by its projecting elongation; abdomen purplish instead of dark green above, the three subterminal segments carmine. Expanse, ♂ 1 inch 3–5 lines.

Yokohama (*Jonas*).

4. *Procris esmeralda*, n. sp.

Primaries shining emerald-green, more golden at basal and costal areas, fringe smoky grey; secondaries smoky grey, semitransparent, fringe opaque; antennæ and thorax emerald-green; abdomen blackish, dull green at the sides: body below dull green; primaries below smoky grey, the apex and costa dark shining green; secondaries as above. Expanse 11 lines.

Yokohama (*Jonas*).

Apparently allied to "*Ino chinensis*" of Felder, but coloured more like *Procris cognata* ♀ of Herrich-Schäffer (? Rambur).

5. *Northia tenuis*, n. sp.

Wings greyish hyaline, the veins black, outer margins slenderly black; primaries with the costal area and a broad internal border black; secondaries with the apex and a longitudinal streak from the base through the cell black, costal area grey; antennæ steel-blue, with black pectinations; body black, thorax spotted with steel-blue scales; abdomen with the margins of the segments and anal extremity metallic green, below wholly green; wings below with a blue spot at the base; proboscis yellow. Expanse 1 inch 2 lines.

Yokohama, Hakodaté, and Hong-Kong.

Aspect of *Illiberis trista* of Bremer.

Arctiidae.

6. *Spilarctia imparilis*, n. sp.

♂. Above smoky brown; primaries with a spot at the base, an elbowed series across the middle, an oblique series terminating opposite the end of the cell in a quadrate patch of six spots, and an abbreviated zigzag submarginal series of dots black; secondaries with a submarginal series of large blackish spots; head whitish; back of collar, margins of eyes and abdomen golden orange, the latter with dorsal and lateral black spots; tegulæ with a black spot; body below whitly brown. Expanse 1 inch 10 lines.

♀. White; primaries creamy, the black spots very small, many of them wanting; secondaries pure white, spotless; body white, the margins of the collar and eyes and the dorsal surface of the abdomen golden orange, the latter with a central row of black spots; anus creamy white; tegulæ with a black spot. Expanse 2 inches 3 lines.

Yokohama.

The male is near to *S. brunnea*; but the female resembles

S. subfascia more nearly. Mr. Jonas assures me they are sexes.

7. *Spilarctia mollicula*, n. sp.

♀. Pinky cream-colour; primaries with a dot at the centre of costa, a spot at the superior angle of the cell, and another in the discoidal interspace blackish; secondaries with a spot on upper discocellular, a second near the apex, and three (sub-marginal) near the anal angle blackish; margins of collar and eyes and anterior coxæ rose-red; abdomen rose-red, testaceous at the anal extremity; three or four dorsal black dots; wings and body below creamy whitish, the smaller spots indistinct. Expanse 1 inch 11 lines.

Hakodaté (*Whitely*).

8. *Euprepia phæosoma*, n. sp.

♀. General pattern and coloration of *E. caja*, but the white banding of primaries more simple, the secondaries paler at the base, with spots fewer and not yellow-bordered, the anterior half of the collar red, with a white spot at the lateral angles; the outer margin of the tegulæ white; the abdomen brown, with rose-red hind margins to the segments. Expanse 2 inches 8 lines.

Yokohama (*Jonas*).

Readily distinguished by the colour of the body.

THANATARCTIA, n. gen.

Allied to *Phragmatobia*, but the primaries trigonate, the lower radial and third median branches springing from one point and close to the second median branch, the anterior margin of the cell of secondaries less receding, the antennæ of male widely pectinated.

Type *T. infernalis*.

9. *Thanatarctia infernalis*, n. sp.

Wings and thorax black-brown; margins of collar, eyes, palpi, and the pectus rose-red; abdomen rose-red, with a macular dorsal black line. Expanse 1 inch 5 lines.

Hakodaté (*Stevens*).

RHYPARIOIDES, n. gen.

Agrees in neuration with *Rhyparia* and *Diacrisia*, but differs from the former in its much more slender body, and

from both in the serrated rather than pectinated antennæ of the male.

Type *R. nebulosa*.

10. *Rhyparioides nebulosa*, n. sp.

Primaries sordid buff, testaceous, or gravel-colour, the internal area of the male clouded with grey to the median vein; a central elbowed grey line or band, terminating in two black spots on the costal area; end of the cell grey, with a black dot at the superior angle; three costal subapical black dashes, followed by a more or less defined zigzag greyish discal band or streak limiting the outer border; fringe spotted with black; secondaries bright rose-red, spotted with black, as in *Rhyparia purpurea*; thorax coloured like the primaries; abdomen rose-red, with dorsal and lateral series of black spots; under surface nearly as in *Rhyparia purpurea*. Expanse 2 inches 1 line.

Yokohama (*Jonas*), Hakodaté (*Whitely*).

Apparently allied to the species named "var. *amurensis*" by Bremer.

Lithosiidæ.

11. *Miltochrista pulchra*, n. sp.

Primaries ochraceous, covered with scarlet spots and streaks, as in *M. striata*, and crossed at nearly equal distances by four series of black dots, the first and third series distinct and arched, the fourth series composed of small linear dashes; two black dots at the base; secondaries pink, deepest in colour externally, fringe whitish; thorax rosy, dotted with black; abdomen pink; primaries below bright rose-colour without spots. Expanse 1 inch 3 lines.

Yokohama (*Jonas*).

12. *Miltochrista calamina*, n. sp.

Primaries stramineous, deepest at the costal and outer borders, a dot at base, a second at the end of the cell, and an irregular discal series black; the base of costa, an irregular transverse line near the base, and a deeply dentated line beyond the middle brown; secondaries paler than the primaries: body whitish, the head and collar stramineous; a black humeral dot; primaries below with the base of costal area blackish, a dash in the cell and a blurred band beyond it grey; five black dots in a subapical series; body below stramineous. Expanse 11 lines.

Yokohama (*Jonas*).

Allied to *M. excurrens*.

13. *Miltochrista aberrans*, n. sp.

Very like *M. miniata*, but with three black dots at the base and two slender lines crossing one another over the basal area, the irregular discal line more acutely dentated, and the series of black spots beyond it more elongated. Expanse 1 inch.

Yokohama (*Jonas*).

This species differs from *M. decussata* of Moore in the rosy borders to the wings.

14. *Miltochrista rosaria*, n. sp.

Close to *M. miniata*, but differing in that the subbasal Σ -shaped line of primaries is replaced by a Θ -shaped line, and is followed by a transverse sharply defined irregular black line from the costa to the inner margin; secondaries much paler, almost white. Expanse 1 inch.

Yokohama (*Jonas*).

MELANÆMA, n. gen.

Allied to *Miltochrista*, but differing in its broadly pectinated antennæ, and the shorter fork of the subcostal vein of secondaries.

15. *Melanæma venata*, n. sp.

Wings above creamy whitish; primaries with the base of the costa and a spot near the base black; veins deep slate-colour; costal and outer borders broadly rosy; secondaries with the veins grey, outer border slightly rosy; thorax and anal extremity of the abdomen rosy, the remainder of the abdomen cream-colour: wings below nearly as above, but more uniform in colouring; body below ochraceous; legs banded with black; venter dotted with brown. Expanse 1 inch 4 lines.

Yokohama (*Jonas*).

16. *Lithosia ægrota*, n. sp.

Closely allied to *L. griseola*, but differing in the broader stramineous costal border of primaries, the clear stramineous secondaries; and the primaries below deep grey, with the apical two thirds of the costal margin, a broad sharply defined external border, the whole of the secondaries, and body rich creamy yellowish. Expanse 1 inch 5 lines.

Hakodaté (*Whitely*).

Excepting in the more uniform colouring of the abdomen and secondaries, more like *L. complana*.

17. *Lithosia adaucta*, n. sp.

Also allied to *L. griseola*, but considerably larger (the size of *L. fumeola*), darker with clear creamy stramineous secondaries and paler abdomen; otherwise similar. Expanse 1 inch 9 lines.

Hakodaté (*Whitely*).

The largest example of *L. griseola* that we possess measures 1 inch 6 lines in expanse; but the coloration of the secondaries would at once distinguish the two species.

18. *Lithosia pavescens*, n. sp.

Nearly allied to *L. helveola*, but the wings pale buff, the secondaries slightly paler at abdominal margin; the fringe whitish instead of yellow. Expanse 1 inch 2 lines.

Hakodaté (*Whitely*).

L. helveola has a dusky border and bright yellow fringe to all the wings.

19. *Lithosia levis*, n. sp.

Allied to *L. helveola*, but considerably larger; the wings opaque, pinky whitish, with a well-marked sericeous ochraceous outer border; primaries below brownish, with the costal and outer margins ochraceous; secondaries stramineous, becoming ochraceous towards the base of the costal and the apex of the outer margins; body above pale buff, with the head, shoulders, and prothorax ochreous; below ochreous; legs slaty grey above, the tibiæ and tarsi greyish brown below. Expanse 1 inch 6 lines.

Yokohama (*Jonas*).

Also allied to *L. insolita*.

20. *Æonistis dives*, n. sp.

Nearly allied to *Æ. quadra*, but the primaries of a much deeper colour, the male with the external sericeous border of a deep leaden-grey colour and of less than half the width; the female with the primaries longer, bright orange; the secondaries in both sexes paler. Expanse ♂ 1 inch 9 lines, ♀ 1 inch 10 lines.

Yokohama (*Jonas*).

The wings of this species are somewhat narrower than those of *Æ. quadra*.

21. *Æmene fasciata*, n. sp.

Primaries white, crossed in the centre by an irregular grey band bounded on each side by a series of black spots; the base of the costa, two large basicostal spots, and four dots on the basal area black; four spots forming an imperfect discal series (the largest on the costa), an apical spot on the fringe, a second spot near the centre of the fringe, and two marginal dots between them black; secondaries grey, the fringe white with a central brownish spot; body white, the shoulders and tegulæ black-spotted: underside grey, with white fringe, a dusky spot at the end of each discoidal cell; primaries with two and secondaries with one spot on the fringe; body whitish brown, legs grey. Expanse 11 lines.

Yokohama (*Jonas*), Hakodaté (*Whitely*).

The example from Hakodaté is paler than the type.

22. *Eugoa grisea*, n. sp.

Primaries silvery grey; two dots at the base, two spots (one on the costa) near the base, two dots placed obliquely at the end of the cell, a diffused dash from the costa to the end of the cell, and a diffused >-shaped marking in a line with it on the internal area, two dots placed obliquely at external angle, and two or three irregularly near the apex black; margin slenderly blackish; fringe sordid white; secondaries pale brown; thorax grey, tegulæ black-spotted; abdomen whitish brown; primaries below smoky brown, immaculate, secondaries pale brown; body whitish, the legs greyish in front. Expanse 1 inch 2 lines.

Yokohama (*Jonas*).

Allied to *E. bipunctata* and *E. distributa*.

PTERODECTA, n. gen.

Allied to *Cleosiris*, but the primaries with deeply and widely sinuated apex, forming an acute angle at the extremity of the upper radial; palpi coarser and more densely scaled.

Type *P. anchora*.

23. *Pterodecta gloriosa*, n. sp.

♂. Allied to *P. Felderi* and *P. anchora*, but altogether larger and more brilliant in colour: wings above dark olive-brown, with red fringes intersected by a blackish line; primaries with the costal margin reddish flecked with pink; a broad discal bisinuated arched band, as in *P. Felderi*, brilliant scarlet changing to cadmium-yellow towards the costal margin: body

dark brown, reddish in front and below. Primaries below with the costal area and outer border ferruginous, flecked with pink; a large marginal lilacine crescent at the apical sinus; a broad discal band as above, but scarlet changing to saffron-yellow; a bifid spot of the same colour below the cell; discoidal cell mustard-yellow, enclosing two black-edged white dots; interno-median area greyish brown, becoming blackish at the borders of the discal band; a large black spot with cuneiform white centre at the end of the cell: secondaries ferruginous, irregularly banded and striated with deeper colour; a squamose transverse yellow streak enclosing a reniform spot across the end of the cell; three black spots near the base; tips of the veins and a marginal line at apex pink: legs whitish, mottled with purplish brown. Expanse 1 inch 10 lines.

Yokohama (*Jonas*).

One of the most beautiful moths yet discovered; the female is rather smaller and paler below, the body and secondaries being yellowish.

Nyctemeridæ.

PSYCHOGOËS, n. gen.

Allied to *Secusio* (*S. annulata*), the primaries considerably broader, with the discoidal cell shorter, the subcostals united at the base, so as to form two prædiscoidal cellules, from the second of which the true branches are emitted, the first branch simple, the second trifurcate, a third branch (the continuation of the main subcostal nervure) emitted from the supero-exterior angle of the cell; the radial emitting a recurrent false vein backwards through the cell to the base; neuration of secondaries almost as in *Secusio*; body rather more slender; palpi extremely short, barely extending beyond the front of the head; antennæ slender, with very short pectinations.

Type *P. aterrima*.

24. *Psychogoës aterrima*, n. sp.

Shining black, the primaries with an oblique narrow snow-white band, abruptly and transversely cut off on the median interspaces; secondaries with the fringe snow-white; primaries below with the basal area greyish, the white band extended downwards towards the external angle; secondaries greyish towards the base, the abdominal margin grey; an angulated central grey line, dotted with white below the middle; fringe white; body below grey, the legs and abdomen banded with white. Expanse 1 inch 7 lines.

Yokohama (*Jonas*).

This species somewhat resembles *Baptria exsecuta*, also from Japan, excepting in its greater size and the absence of the white band on secondaries.

PSYCHOSTROPHIA, n. gen.

Allied to *Bursada*, but the wings much broader, the neuration of the primaries entirely different, and the antennæ shorter and filiform. Primaries with the costal nervure terminating at just beyond the middle of the costa; the subcostal emitting its branches before the end of the cell, the first simple, the second trifurcate; upper radial or third subcostal branch emitted from the supero-exterior angle of the cell, and divided a little beyond it into two branches. Secondaries with neuration much like that of *Bursada*.

Type *P. melanargia*.

25. *Psychostrophia melanargia*, n. sp.

♂. Primaries shining purplish brown; a large cuneiform discoidal patch, an oblique postmedian band, three large spots near the outer border and a little dash on the inner margin ochraceous; secondaries ochraceous, with a subcostal streak from the base and a broad internally angulated outer border shining purplish brown; a bifid apical spot and an anal submarginal zigzag belt ochreous; fringe with a patch of silvery white near the apex of each wing; body blackish, banded with yellow: wings below much paler than above, the bands rather wider; body creamy pale yellow. Expanse 1 inch 7 lines.

♀. Larger than the male, the yellow area, bands, and spots much paler, the basal patch of primaries smaller, the submarginal belt of secondaries broken up into small ochreous spots. Expanse 1 inch 8 lines.

Yokohama (*Jonas*).

Chalcosiidæ.

26. *Pidorus atratus*, n. sp.

Like *P. glaucopis*, but smaller, considerably darker, the white belt of primaries generally wider, but always more oblique and with straight external edge, the apex of primaries below without bluish scales. Expanse 1 inch 11 lines to 2 inches 1 line.

Hakodaté (*Whitely*), Yokohama (*Jonas*).

Liparidæ.

27. *Leucoma auripes*, n. sp.

♂. Allied to *L. vau-nigra*, but larger, without the black line on the discocellulars of primaries, the costal area of the same wings dusky, and the veins clothed with silvery scales; the antennæ longer, with a black belt near the base and with black pectinations; the anterior legs golden yellow, and the tarsi of the remaining legs testaceous. Expanse 2 inches 6 lines.

♀. Larger, the costa of primaries scarcely dusky, the front legs with the femora white below. Expanse 2 inches 9 lines.

Yokohama (*Jonas*).

28. *Artaxa intensa*, n. sp.

Allied to *A. flavinata*. Primaries golden yellow, with a central angulated whitish-bordered band speckled with brown scales, fringe sericeous; secondaries bright ochraceous, whitish on costal area, fringe pale yellow; body yellow, prothorax and centre of tegulæ whitish: wings below altogether paler, creamy whitish, more or less ochraceous beyond the middle, without markings. Expanse, ♂ 1 inch 3 lines, ♀ 1 inch 7 lines.

Yokohama (*Jonas*).

29. *Aroa Jonasi*, n. sp.

♂. Primaries pale sulphur-yellow, a large pale-centred brown spot at the end of the cell, the apex with a reddish brown, depressed, conical, costal spot, from which two small squamose spots are continued obliquely downwards; secondaries sericeous white, yellowish externally; body white, the collar and metathorax pale sulphur-yellow; head and pectinations of antennæ gravel-orange; palpi, tibiæ, and tarsi ochreous: wings below pale sulphur-yellow; primaries with the costa ochreous, apical portion of costal area sordid orange; secondaries with a small ochreous discocellular lunule. Expanse 1 inch 6–11 lines.

Yokohama (*Jonas*).

30. *Lymantria fumida*, n. sp.

Allied to *L. dispar*, the male larger, dark smoky brown; the markings of primaries similar; secondaries darker, uniformly dark smoky brown, the fringe varied with paler spots: wings below like those of *L. dispar* in pattern, but differing

in their fuliginous colour. Female with the primaries covered all over with fuliginous scales, which become more sparse towards the outer margin; the lunated discal lines nearer together, the innermost one (running from the end of the cell) barely distinguishable, the second indistinct, the third consisting of broad lunated fuliginous spots; secondaries pale dull sandy yellowish, with a broad submarginal pale brown belt; marginal spots wanting; thorax speckled with fuliginous like the primaries; abdomen pale sandy yellow, the terminal segments bordered with pink: wings below sordid sandy yellowish, with pale greyish submarginal belt; discocellular spot of secondaries blackish. Expanse, ♂ 2 inches 1 line, ♀ 2 inches 10 lines.

Yokohama (*Jonas*).

Also allied to *L. japonica* of Motschulsky, but smaller and darker. *

31. *Lymantria aurora*, n. sp.

Male of the form and general coloration of *L. dispar*, but the primaries pale fuliginous brown crossed by three irregular whitish lines near the base and three lunated whitish streaks beyond the middle, the inner streak blurred and indistinct, the outer one submarginal; a whitish dot at the end of the cell; secondaries almost as in *L. dispar*. Female more nearly resembling *L. grandis*; the primaries greyish white, pink at the base, with two zigzag basal blackish lines, the centre of the wing and outer border crossed by lunated dusky belts; a grey spot in the cell and a marginal series of blackish spots; secondaries pale pink, brightest at abdominal margin, a spot at the end of the cell and a submarginal band grey, margin spotted with black; thorax white, abdomen pink with white anal segments; margins of eyes, palpi, and legs rose-red; femora and tibiae grey below; tibiae and tarsi banded with black. Wings below greyish, margined with pink and with dusky marginal spots. Expanse, ♂ 2 inches 1 line, ♀ 3 inches 2 lines.

Yokohama (*Jonas*).

32. *Dasychira lunulata*, n. sp.

Primaries silvery white, irrorated with black, crossed near the base by an oblique blackish line commencing in three small, fusiform, black-edged, brown spots, followed by a blackish costal dash; disk crossed by a sinuous lunulated blackish line; a subconfluent series of submarginal blackish lunules: secondaries of male fuliginous, of female sordid

whitish; a dusky spot at the end of the cell, and two dusky discal stripes parallel to the outer margin; a marginal row of blackish spots; outer border of male white, fringe white: body white, thorax greyish; abdomen of male with lateral dusky belts; antennæ with ferruginous pectinations. Below sordid white with a black spot closing each discoidal cell; a discal dusky stripe, forking in the male; this sex also with dusky subcostal and median longitudinal streaks; female with dusky marginal spots in the primaries. Expanse, ♂ 2 inches 1 line, ♀ 2 inches 8 lines.

Yokohama (*Jonas*).

[To be continued.]

LII.—*Description of an apparently new Species of Humming-bird of the Genus Amazilia.* By D. G. ELLIOT, F.R.S.E. &c.

Amazilia lucida.

Adult. Crown of head dark metallic grass-green; upper surface shining grass-green, lighter than the head. Upper tail-coverts golden bronze. Throat, breast, abdomen, and flanks metallic grass-green, a light mouse-coloured spot on the lower part of the abdomen. Thighs white, feathers fluffy. Under tail-coverts dark bronzy brown, edged with white. Wings dark purple. Tail reddish bronze, darkest on the central portion of the feathers along the shafts, with the tips of the lateral rectrices bluish black, their edges reddish bronze. This bluish-black colour almost resolves itself into a subterminal bar, and is especially conspicuous on the underside of the tail. Bill apparently brownish red, perhaps flesh-colour in life, with a dark tip. Total length $3\frac{1}{2}$ inches, wing $2\frac{1}{2}$, tail $1\frac{1}{4}$, culmen $\frac{3}{4}$.

Hab. Stated to be Columbia.

This seems to be a very distinct species, belonging to that section of the *Amaziliae* to which Cabanis gave the generic term of *Pyrrhophæna*, and apparently comes nearest to the species generally known as *P. Devillei*, Bourc., but differs from it, and, indeed, from every other member of the genus *Amazilia*, by the coloration of the tail and its coverts. The crown resembles somewhat that of the bird called by Mr. Gould *Erythronota Felicieæ*; but there is no further resemblance between them save that, as with several others of these closely allied birds, the underparts are shining green. The genus *Pyrrhophæna* (in which possibly some would place this new